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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/700,161

11/03/2003

Bret D. Cannon

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32215

7590

08/23/2006

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EXAMINER

STAFIRA, MICHAEL PATRICK

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/700,161	CANNON, BRET D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael P. Stafira	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on remarks filed 5/15/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-24 is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-15, 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12, 14-15, 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claim 1, merely combining the first frequency-modulated light signal and the second frequency-modulated light signals to reduce residual amplitude modulation in accordance with the difference would not appear to be a sufficient to constitute a tangible result, since the outcome of the combining step has not been used in a disclosed practical application nor made available in such a manner that's it's usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

In claim 8, merely nulling the undesired amplitude modulation with other light to improve detection would not appear to be a sufficient to constitute a tangible result, since the outcome of the combining step has not been used in a disclosed practical application nor made available in such a manner that's it's usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

In claim 25, merely a means for reducing the residual amplitude modulation in accordance with a difference between first and second modulation index to improve detection of

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the information would not appear to be a sufficient to constitute a tangible result, since the outcome of the combining step has not been used in a disclosed practical application nor made available in such a manner that's it's usefulness in a disclosed practical application can be realized. See OG Notices: 22 November 2005, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility".

Dependent claims 2-7, 9-12, 14-15 are rejected also because they hold the same deficiencies as the independent claims disclosed above.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 8-12, 14, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Maris et al. ('449)..

**Claim 8**

Maris et al. ('449) discloses providing frequency-modulated light carrying information with undesired amplitude modulation, the frequency-modulated light being provided with a first modulation index (Col. 11, lines 50-55); generating other light that is frequency-modulated with a second modulation index (Col. 12, lines 50-56), the other light having a carrier frequency different than the frequency-modulated light; and at least partially nulling the undesired amplitude modulation with the other light to improve detection of the information (Col. 24, lines

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1-16).

**Claim 9**

Maris et al. ('449) discloses detecting light corresponding to said at least partially nulling to generate an output corresponding to the information (Col. 24, lines 1-16).

**Claim 10**

Maris et al. ('449) further discloses the information corresponds to one spectroscopic characteristics of a material from which the frequency-modulated light is received (Col. 24, lines 1-16).

**Claim 11**

Maris et al. ('449) discloses generating the frequency-modulated light and the other light from the same laser light source (Fig. 1b, Ref. 12).

**Claim 12**

Maris et al. ('449) discloses the frequency-modulated light and the other light have a common modulation frequency (Fig. 1b, Ref. 24).

**Claim 14**

Maris et al. ('449) discloses at least partially nulling includes combining the frequency-modulated light and the other light (Col. 24, lines 1-16).

**Claim 25**

Maris et al. ('449) discloses means for interrogating a material to provide a first frequency-modulated light signal having a first modulation index, the first frequency-modulated light carrying spectroscopic information with residual amplitude modulation (Col. 11, lines 50-55); means for generating a second frequency-modulated light having a second modulation index

(Col. 12, lines 50-56); and means for reducing the residual amplitude modulation in accordance with a difference between the first modulation index and the second modulation index to improve detection of the spectroscopic information (Col. 24, lines 1-16).

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-12, 14-25 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

5. Claims 16-24 are allowed over the prior art of record.

6. Claims 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the prior art fails to disclose or make obvious a method of controlling a difference between the first modulation index and the second modulation index; and combining the first frequency-modulated light signal and the second frequency-modulated light signal to reduce residual amplitude modulation in accordance with the difference, and in combination with the other recited limitations of claim 1. Claims 2-7 would be allowed by the virtue of dependency on the allowed claim 1.

Regarding claim 16, the prior art fails to disclose or make obvious an apparatus having an evaluation region to receive a substance for evaluation and direct the first light signal to the

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substance, the first light signal being altered by the substance when received in the region to provide a third frequency-modulated light signal carrying spectroscopic information about the substance and residual amplitude modulation; and a first detector responsive to the second light signal and a third light signal to provide an output representative of the spectroscopic information with the residual amplitude modulation reduced in accordance with a difference between the first modulation index and the second modulation index, and in combination with the other recited limitations of claim 16. Claims 16-24 are allowed by the virtue of dependency on the allowed claim 16.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael P. Stafira  
Primary Examiner  
Art Unit 2877

August 18, 2006